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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,127	11/25/2003	Salman Akram	020083.1	9440

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EXAMINER

TRINH, MICHAEL MANH

ART UNIT PAPER NUMBER

2822

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/723,127

Applicant(s)

AKRAM ET AL.

Examiner

Michael Trinh

Art. Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-33 and 39-47 is/are allowed.
- 6) ☒ Claim(s) 34, 37, 38, 48 and 49 is/are rejected.
- 7) ☒ Claim(s) 35, 36 and 50 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/25/03, 3/25/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: IDS 6/18/04 & 12/28/04.

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DETAILED ACTION

*** This office action is in response to filing of the application on November 25, 2003.

Claims 26-50 are pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 34,37-38 are rejected under 35 U.S.C. 102(e) as being anticipated by List et al (6706584).

Re claim 34, List teaches a method for forming a semiconductor component comprising: providing a semiconductor die comprising a plurality of die contacts 72,74 (Figs 1-2; col 2, line 55 through col 3); forming a first redistribution layer 18 on the die (Fig 3A; col 4, lines 1-39); patterning the first redistribution layer to form a first electrode 18 (Figs 1-2) of the capacitor in electrical communication with a first die contact 72; forming a dielectric layer 16 of the capacitor on the first electrode 18 (Figs 1-2); forming a second redistribution layer 14 on the die and on the dielectric layer 16 (Figs 3B-3E,1-2); and patterning the second redistribution layer to form a second electrode 14 of the capacitor in electrical communication with a second die contact 74. Re claim 37, a protective layer 12 is formed on the die encapsulating the first electrode 18, the dielectric layer 12, and the second electrode 14 (Figs 1,3F-3H; col 3, lines 34-38; col 5, lines 5-15). Re claim 38, wherein the first die contact comprises a ground contact Vss and the second die contact comprises a power contact Vcc (col 5, lines 15-53; col 3, lines 20-42).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over List et al (6706584) taken with Kubacki (6,794,098).

List teaches a method for forming a semiconductor component as applied to claims 34,37-38 above, wherein an on board capacitor is formed on a semiconductor die.

List lacks having the semiconductor die in a semiconductor wafer.

However, Kubacki teaches employing a large semiconductor wafer for forming a plurality of semiconductor die at the same time, and thereafter singulating to separate the die from the wafer (Fig 5; paragraphs 0061-0063).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the semiconductor component of List by employing the semiconductor wafer for forming a plurality of semiconductor die by singulating as taught by Kubacki. This is because of the desirability to form a plurality of discrete semiconductor die at the same time so as to reduce processing time and production cost.

Allowable Subject Matter

5. Claims 26-33,39-43 are allowed

6. Claims 35-36,50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The references of record including List et al (6706584), Kubacki (6,794,098), etc., , alone or in combination, do not anticipatively disclose each and every aspect of the claimed method, or

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fairly make a prima facie obvious case of the claimed method, in combination with other processing claimed limitations as recited in base claims, the inclusion of forming a first terminal contact on the die in electrical communication with the electrode, wherein a semiconductor die comprises a plurality of die contacts; form a first electrode of the capacitor in electrical communication with a first die contact; forming a dielectric layer of the capacitor on the first electrode; and patterning to form a second electrode of the capacitor in electrical communication with a second die contact.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael M. Trinh whose telephone number is (571) 272-1847. The examiner can normally be reached on M-F: 8:30 Am to 5:00 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0956.

Oacs-16



Michael Trinh
Primary Examiner